

ABSTRACT

An apparatus and method are provided for using laser energy in an automated bonding machine to effect laser welding of ribbons and other connectors, particularly conductive ribbons in microelectronic circuits. The apparatus and method allow bonding and connection of microelectronic circuits with discrete heating avoiding heat damage to peripheral microelectronic components. The apparatus and method also allow bonding of flexible materials and low-resistance materials, and are less dependant on substrate and terminal stability in comparison to existing bonding methods. The bonding method leads to decreased apparatus wear in comparison to existing bonding methods.